

# List of All Chemicals

## P *Bursera delpechiana* (Burseraceae)

Common name(s)

Linaloe; Lignaloe

How used

Medicinal

\*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Chemical	Plant Part	Low PPM	High PPM	StdDev	*Reference
ALPHA-TERPINEOL	Wood	2125.0	10200.0		*
<b>Activities (23)</b>					
ACE-Inhibitor 100 ug/ml (weak activity)					
Aldose-Reductase-Inhibitor 100 ug/ml	Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpene from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.				
Allelopathic	Wright, C.W. (Ed) 2002. Medicinal & Aromatic Plants-Industrial Profiles. Artemisia. 344pp. Maffei, M. (Ed) 2002. <i>Vetiveria. The Genus Vetiveria</i> . Taylor & Francis. NY, NY. 191pp. Southwell, I., Lowe, R. (Eds) 1999. <i>Tea Tree. The Genus Melaleuca</i> . Harwood Acad. Pub. Amsterdam, Netherlands.				
Antiacne					
Antibacterial MIC=800-1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . J. Agric. Food Chem. 41: 1102-1105.				
Anticancer	Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code</i> . Hyperion, NY.				
Anticariogenic MIC=800-1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . J. Agric. Food Chem. 41: 1102-1105.				
Antiinflammatory					
Antiproliferant					
Antiseptic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Cicatrizant ED50=240 ug/g mus					
FLavor FEMA 5-40	Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry				
Insecticide 1.29 uM/fly					
Interleukin-6-Inhibitor					
Mosquitofuge > Deet					
Motor-Depressant	Buchbauer et al, e.g. Buchbauer et al, 1993. Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi, R., Buttery, R.G and Sugisawa, H. Eds. <i>Bioactive Volatile Compounds from Plants</i> . ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Nematicide MIC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.				
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Pesticide					
Sedative	Buchbauer et al, e.g. Buchbauer et al, 1993. Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi, R., Buttery, R.G and Sugisawa, H. Eds. <i>Bioactive Volatile Compounds from Plants</i> . ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Termiticide IC100=5 mg/g					
Transdermal					
Vulnery ED50=240 ug/g mus					
CIS-2,6,6-TRIMETHYL-2-VINYL-5-ACETOXYTETRAHYDROPYRAN	Wood	--	--		*
EO	Wood	25000.0	120000.0	2.32	*
GERANIOL	Wood	250.0	1200.0		*
<b>Activities (35)</b>					
Allergenic					
Anthelmintic	Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.				
Antibacterial MIC=400 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . J. Agric. Food Chem. 41: 1102-1105.				
Antibacterial MIC=64 ug/ml					
Antibacterial MBC=800 ug/ml					
Anticancer (Pancreas) IC50=265 uM					

MIC=400 ug/ml

41. 1102-1103.

Antimelanomic  
IC50=150 uM/lAntisalmonella  
MIC=400 ug/ml

Antiseptic 7 x phenol Wagner &amp; Wolff, eds. 1977. New Natural Products (RS164. I56. 176)

Antiseptic MIC=64  
ug/mlAntiseptic 400-800  
ug/mlAntispasmodic Buchbauer, G., Jirovecz\*, L., Nikiforov, A., Remberg, G., Raverdino, V. 1989. Headspace-Analysis and Aroma Compounds of Austrian Hay-Blossoms (Flores Graminis, Graminis Flos) used in Aromatherapy. *J. Ess. Oil Res.*, 2: 185-191, 1990.Antitubercular  
MIC=64 ug/mlAntitumor Yu, S.G., Anderson, P.J., and Elson, C.E. 1995. Efficacy of B-Ionone in the Chemoprevention of Rat Mammary Carcinogenesis. *J. Agric. Food Chem.* 43: 2144-2147.Antitumor (Pancreas)  
IC50=265 uM

Ascaricide Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.

CNS-Stimulant List, P.H. and Horhammer, L. Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Cancer-Preventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Candidicide

Embryotoxic

Emetic 3 x ipecac Lawrence Review of Natural Products, Sep-97.

Expectorant Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.

FLavor FEMA 1-10 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Fungicide IC93=2 mM Lydon, J. &amp; Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. &amp; Simon, J., eds, Herbs, Spices &amp; Medicinal Plants: Recent Advances in Botany, Horticulture, &amp; Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.

Herbicide IC100-2,000 uM Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.

Insectifuge 50 ppm

Insectiphile Merck 11th Edition

Mycobactericide  
MIC=64 ug/mlNematicide IC86=100 Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.  
ug/ml

Nematicide MLC=1,000 ug/ml Shoyakugaku Zasshi, 44: 183.

Perfumery Merck 11th Edition

Pesticide

Sedative

Trichomonicide  
LD100=300 ug/ml**GERANYL-ACETATE**

Wood

875.0

3000.0

\*

**Activities (5)**

Allergenic

FLavor FEMA 1-20 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Insectiphile Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor &amp; Frost, London. 791 pp.

Perfumery Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor &amp; Frost, London. 791 pp.

Sedative Jim Duke's personal files.

**LIMONENE**

Wood

75.0

360.0

\*

**Activities (60)**

AChE-Inhibitor

Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, *Oest. Biochem. & Physiol.*, 23, 1985, 383-8.

Acaricide LC100=8 uM

Allelochemic

Allergenic 1/20th carene

Antiacyetylcholinesterase IC22-26=1.2 mM

Antiadrenomimic

Antialzheimeran?

Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, *Oest. Biochem. & Physiol.*, 23, 1985, 383-8.

Antiasthmatic

Antibacterial

Anticancer

Antiesophagitic

Antifeedant

Antiflu Economic &amp; Medicinal Plant Research, 5: 195.

Antiinflammatory

Antilithic

Antilymphomtic

Antimetastatic (Stomach)

Antibesity				
Antiseptic				
Antispasmodic ED50=0.197 mg/ml	Fitoterapia No.59-1984.			
Antitumor				
Antitumor (Breast)				
Antitumor (Colon)				
Antitumor (Pancreas)				
Antitumor (Prostate)				
Antitumor (Stomach)				
Antiviral				
Apoptotic				
Bronchoprotectant				
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.			
Candidstat				
Chemopreventive				
Cholesterolytic				
Detoxicant				
Enterococontractant	J. Aromatherapy 4: 22.			
Expectorant				
FLavor				
Fungiphilic	J. Agric. Food Chem. 43: 2283.			
Fungistat				
GST-Inducer				
Herbicide IC50=45 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.			
Histaminic				
Immunomodulator				
Insecticide 0.37 uM/fly				
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.			
Interleukin-6-Inhibitor				
Irritant				
Lipolytic				
Myorelaxant 50 mg/kg				
NO-Genic				
Nematicide IC=100 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.			
Ornithine-Decarboxylase-Inhibitor ~750 mg/kg (diet)				
Ozone-Scavenger				
P450-Inducer				
Peristaltic				
Pesticide				
Photosensitizer	Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.			
Sedative ED=1-32 mg/kg	Wagner & Wolff, eds. 1977. New Natural Products (RS164.156.176)			
Transdermal				

LINALOL		Wood	7500.0	84000.0	*
LINALOL-MONOXIDE		Wood	--	--	*
LINALOL-OXIDE-FURANOID		Wood	250.0	1200.0	*
LINALYL-ACETATE		Wood	10200.0	56400.0	*
<b>Activities (7)</b>					
Anesthetic 0.01-1 ug/ml					
Antioxidant 400 ppm					
Antispasmodic ED50=0.21 mg/ml	Fitoterapia No.59-1984.				
FLavor FEMA 2-15	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Perfumery	Merck 11th Edition				
Sedative					
METHYL-HEPTENOL		Wood	375.0	1800.0	*
METHYL-HEPTENONE		Wood	--	--	*
MYRCENE		Wood	75.0	360.0	*

## Activities (22)

ACE-Inhibitor 100 ug/ml	
Aldose-Reductase-Inhibitor 100 ug/ml	Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.
Allergenic	
Analgesic	Kauderer, B., Zamith, H., Paumgarten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.
Antibacterial	
Anticonvulsant	
Antimutagenic	Kauderer, B., Zamith, H., Paumgarten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.
Antinitrosaminic	
Antinociceptive 10-20 mg/kg ipr mus	Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. J. Pharm. Pharmacol. 42: 877-878, 1990.
Antinociceptive 20-40 mg/kg scu mus	Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. J. Pharm. Pharmacol. 42: 877-878, 1990.
Antioxidant	Jim Duke's personal files.
Antispasmodic	Jim Duke's personal files.
Chemopreventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
FLavor FEMA 0.5-9	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Hypothermic	
Insectifuge	
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Myorelaxant 100-200 mg/kg	
P450-2B1-Inhibitor IC50=0.14 uM	
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Pesticide	

## NEROL

Wood -- -- \*

## Activities (10)

Antibacterial	HerbalGram No. 17.
Antihelicobacter	
Antiseptic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antiulcer	
Estrogenic	
FLavor FEMA 1-20	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Perfumery	Merck 11th Edition
Pesticide	
Sedative	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Trichomonicide ED100=300 ug/ml	

## NERYL-ACETATE

Wood 625.0 3000.0 \*

## Activities (5)

Antiflu	
Antiviral	
FLavor FEMA 1-15	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	

## RESIN

Wood -- -- \*

## TRANS-2,6,6-TRIMETHYL-2-VINYL-5-ACETOXYTHRAHYDROPYRAN

Plant -- -- \*